HOW TO ORDER

I. COMPLETE LAMP OUTFITS

(1) State the nature of the electric supply on which you will use the Outfit—i. e., **Direct Current** (D. C.), or **Alternating Current** (A. C.)

(2) State the pressure of the electric supply (in **Volts)** with the maximum and minimum variations, at the point where the Outfit will be used. If Alternating Current give also the frequency (in **Cycles**).

(3) State the exact Outfit wanted, and whether it is to be wired for **two** or **three** wire systems.

(4) If other than the Regular Outfits are ordered, specify how the Outfits are to be used, and exactly **how far apart** the Tubes are to be spaced.

The Regular Outfits can be used only on the Direct or on the Alternating Current and at the voltage as specified on the name plate. The Outfits are not interchangeable for different voltages.

Special Universal Outfits may be ordered, which are adjustable within limits for both direct and alternating current.

Purchasers will appreciate how necessary positive and definite information is on these points. Accepting second-hand or hearsay information may result in the shipping of Outfits which will not operate on the actual electric supply, and cause delay in adjusting or exchanging the Outfits to meet the actual conditions.

II. RENEWALS (Tubes only)

Give in each case the **type letter** and the **specification number** of the old Tube, or for M and U shaped renewal tubes, give type letter and specification numbers from the name plate of the Reflector-Holder, or the **serial number** printed on the terminals of the old Tube.

Note.—The type letter is not sufficient, as in most cases several sizes and styles of Tube bear the same type letter.

III. REPAIR PARTS TO HOLDERS OR AUXILIARIES

Give the Type Letters and **Specification Numbers** from the name plate of the **Holder** and **Auxiliary,** with a brief description or pencil sketch and dimensions of the new part or parts wanted.

PRICES

All prices are net F. O. B. our factory, Hoboken, New Jersey; and are subject to change without notice. Terms, 30 days to those having established credit.

Full directions with wiring diagram for installing, connecting and adjusting are sent with each Outfit. Your own local electrician should have no trouble with the installation.

We request correspondence before any goods are returned. Unless otherwise agreed, shippers must be responsible for delivery in good condition and must also repay transportation charges.

Shipments will **not be sent C. O. D.** unless a remittance sufficient to pay express charges both ways accompanies the order.

BETTER THAN DAYLIGHT
COOPER HEWITT LIGHT INCREASES PRODUCTION

Cooper Hewitt Electric Company

General Offices 95 River Street Hoboken, N. J.

Boston—161 Summer Street
Charlotte, N. C.
Chicago—Old Colony Building
Cincinnati—First National Bank Bldg

Cleveland—Engineers Building
Detroit—Ford Building
Los Angeles—Keese Engineering Corp.

Philadelphia—Drexel Building
Pittsburgh—Westinghouse Building
St. Louis—Title Guaranty Bldg.
Syracuse—University Building

Cooper Hewitt Electric Co.

General Offices:
95 RIVER STREET

HOBOKEN, N. J.

Works:
8th AND GRAND STS.

Bulletin No. 98-B

Photographic Lamps

CATALOGUE OF
COOPER HEWITT ELECTRIC LAMPS
FOR PHOTOGRAPHIC PROCESSES

Portrait by Markham, Portland, Ore.

That the Cooper Hewitt Light has proven a perfect substitute for daylight for photographic purposes has been substantiated by over seventeen years' experience. When the Light was first introduced, its photographic qualities were at once self-evident. The high actinic value of the Light, its soft, wide diffusion, its uniformity in economy of maintenance, and in current consumed, make the Cooper Hewitt the Ideal Photographic Light.

The advantage of being independent of daylight is of maximum value where the work done with natural light is equaled by artificial light. This high efficiency is possible only with Cooper Hewitt Light because of its particular qualities. These characteristics stand out prominently in the two chief branches of photography; in the making of negatives, whether they be portraits, postal cards, commercial work, or moving picture films, and in the field of printing and enlarging of all sorts.

The test of time has standardized the Cooper Hewitt Lamp in the field of photographic achievement. Improvements in mechanical details and electrical operation have widened the scope and facilitated the operation of the Light. The perfecting of the automatic lighting, or starting, device makes it possible to control the Lamps from the switch, and eliminates the mechanical tilting of the tubes for lighting.

Portraiture

The quality of the photographs by artificial light must equal not only the average, but the best natural lightings. All the different lighting effects are obtained with a little practice. The sitter can look right at the Light without squinting; there is no glare. The Cooper Hewitt Light being of uniform quantity—not a variable like daylight—makes it possible to establish and maintain a standard in photographs from day to day throughout all seasons of the year. Working with a fixed system makes it simple for the operator and leaves the expert free to cope with the intricacies of the art. The obvious advantages follow: The escape from the high rents exacted for inaccessible sky parlors; the independence of variable daylight; the enviable position of being able to make appointments for day or night, rain or shine. The initial cost of an adequate Cooper Hewitt equipment is quickly made up by any one of these advantages, and all yield a high rate of income on the investment.

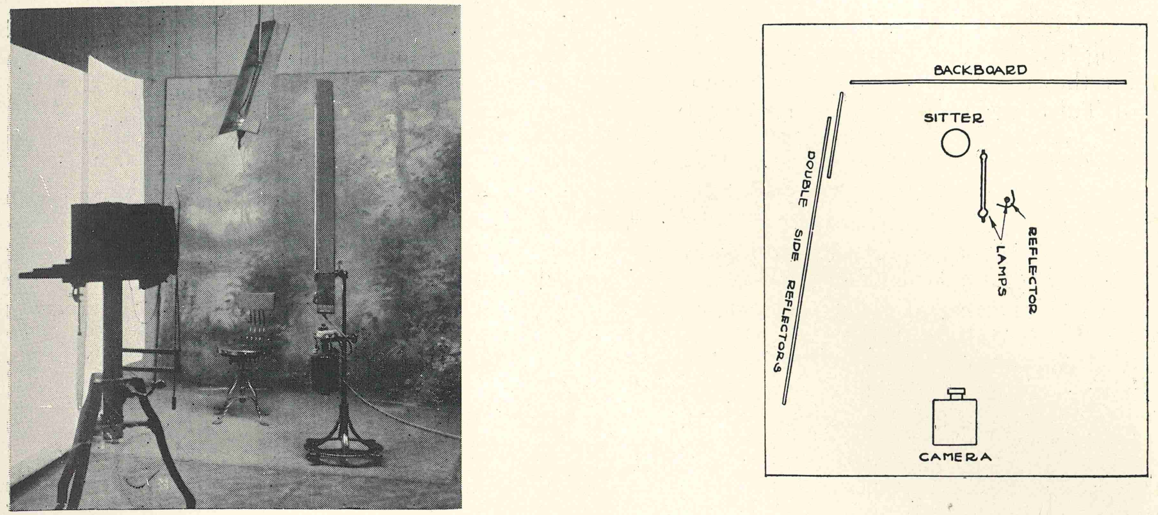
While Cooper Hewitt Outfits are made in units suited to the largest studios, many of the Moving picture equipments run into hundreds of tubes—it must not be inferred that the more elaborate and expensive units are absolutely essential for high grade portraiture. On the contrary, a single tube outfit is capable of turning out work of the highest class. On this subject we can do no better than to quote from an article in Abel's Photographic Weekly by Mr. Edward R. Trabold:

"While the eight-tube outfit will make the studio independent of daylight and is essential in studios specializing in large groups, the 50-inch tube gives enough illumination for making groups of six figures and is excellent for single portraits. Having installed such a light, the operator can, with little experimenting, make not only the plain broad lightings but also the more difficult 'edge', 'line', 'Rembrant', etc. I say 'difficult' for many consider them so, when in reality they are extremely simple if a few details are observed. To soften the light a diffusing screen of cheese cloth may be used for the plain broad lighting. In making special lighting, this is rolled up so as to get the full strength of the light and the head screen brought into play for the 'edge' light. The subject is placed with shoulders slanting toward the camera, then the head turned to face the camera directly, until the light creeps down the edge of the face and the neck, the rest of the head being in the shadow. A reflecting screen is brought up on the shadow side and the exposure made."

The Gerhard Sisters, of St. Louis, have this to say in a contribution to the Photo Era Magazine:

"The plain light, the 'line' and 'Rembrant-lighting' all are easily managed with a little practice. Also the beautiful silhouette—reflections on white grounds, the pretty double lightings and the snappy high lights of which Cooper Hewitt mercury vapor is a sure guaranty; for many of the artificial lights have a tendency to block the headlights and the sitter can even look directly at this light without squinting, as there is no glare.

"The exact time of exposure varies according to how close you work to the light and its intensity; also, whether a white or dark background is in use, just the same as with daylight. You can make an instantaneous or long exposure, depending on what key you are working in. There is no definite rule; a few exposures will give you the time and distance of the lamp."



Photograph shows one of the many arrangements of Portraiture—the diagram gives the floor plan or lay-out

Postal Card Studios

The Postal Card Gallery does not require a large volume of light, but the public demands in its photographs a quality that only the Cooper Hewitt Lamp can supply. Simply quantity of output with hard or flat lighting does not produce good postal card pictures. Here the actinic and the diffusive properties of the Cooper Hewitt Lamp have established it as the standard light.

The Gallery is always recognized by the characteristic color of these Lamps. The proper arrangement of a single Lamp with its special 45 degree reflector and the right adjustment of a side screen, literally puts the photographer in on the ground floor. He can run his gallery day and night at a very small cost. Two lights give a wider scope for group lighting and reduce the exposure. The Types P and F Lamps (Page 5) or the Portrait Outfits Nos. 49 and 50 (Page 6) are used in the Postal Card Gallery.

Commercial Photography

as its name implies, is photography used for business purposes and must be done in a systematic manner. In the first place, therefore, a uniform and ever ready light is absolutely necessary. Daylight keeps no regular hours. In photographing for catalogue work the Cooper Hewitt Light brings out to a wonderful degree the grain in wood or leather; it shows the contours of the models and penetrates into the recesses, reproducing details accurately. Factories and mills having photographic departments of their own find Cooper Hewitt Lamps invaluable for their work.

Photographic reproduction machines have made a place for themselves beside the typewriter, for recording and copying documents. Work is done photographically, producing exact copies in five minutes that might take thirty to sixty minutes by longhand or typewriter with possibility of error. Drawings of sketches which might take draftsmen hours to copy or trace are reproduced accurately and authentically in a few moments.

Absolute uniformity of lighting is required and this can be only accomplished efficiently with the Cooper Hewitt Lamp. Outfits Nos. 47 and 46 (Page 8) have been developed for commercial work.

The first demand in printing is to have the prints when wanted, irrespective of daylight. The second is uniformity in prints, which can be obtained only with a steady light. Both requirements are met by the Cooper Hewitt Lamps because of the steady, invariable intensity of the Light and its wide and even distribution. Photographic printing is a subject for a volume in itself, and includes the work done on many widely varying papers, on film, on blueprint paper through tracings and filing cards on sensitized metal, etc. This subject can be only touched upon here and a few of the standard printing outfits shown.

The printing outfits are made in large variety and the principal ones only mentioned. The long Type P or F Lamps (Page 5), arranged in a rack or over a table is the proper equipment for the somewhat slower papers; while for the still slower materials a special outfit or bank of Tubes as in the Skylight (Page 9) should be used.

Motion Picture Studios

Quality and quantity of illumination must go hand in hand in the Motion Picture Studio. The photographic quality of the film is of first importance, and this can be secured only with proper lighting. Here the diffusion and actinicity of the Cooper Hewitt Light is unexcelled. Also its properties of non-glare and non-heat make for the comfort of actors, as well as for the supremacy of the product. The Light is not injurious or severe on the eyes, as are other illuminants. Several styles of Cooper Hewitt Outfits are used together in the Motion Picture Studio. The Skylight Frames (see Page 9) are hung from the ceiling and furnish the top and side lighting. The Floor Stands (see Page 10) give the low vertical, or side light.

The Foot-Lights (see Page 11) give a low light that is thrown in and up and modify shadows cast by hats, etc.

Title Making is an important department of the Studio. It requires artificial light, and for this work two Cooper Hewitt Outfits are used, one on each side of the camera. Either two No. 52 or No. 62 Outfits (Page 12) or two Nos. 53 or No. 63 Outfits (Page 13) constitute the accepted equipment. Cartoon work requires a simple arrangement of Lights, each side of the board. In this case Outfits Nos. 52 or 62 without stands are hung from the ceiling.

Another booklet gives full details on Motion Picture Studio practice.

Enlarging

Enlarging is like printing, and it really is printing through a camera, is done on a wide variety of papers. The Cooper Hewitt Lamp is especially useful with bromide and similar papers. For this grade of enlarging, condensing lenses are not used; a simple diffusing medium of tracing cloth, ground, or flashed opal glass between the negative and the Cooper Hewitt Tubes gives a perfect, evenly illuminated field. The high first cost of these condensers and the equally high charge for replacement of them is entirely eliminated where Cooper Hewitt Lamps are used, because these Lamps do not produce a great volume of heat.

A special M-shaped tube has been developed for enlarging. It forms a grid of light behind the negative and gives a strong, even field. For small negatives up to and including 8 x 10 the Outfits Nos. 54 and 64 (Page 14) with the M-shaped tube are used. Negatives larger than 8 x 10, up to 11 x 14 and 14 x 17, are better covered by the Nos. 53 and 63 Outfits (Page 13).

Lantern Slides

The making of lantern slides requires an arrangement similar to that for enlarging. The M-shaped Tube Outfits (Page 14) best meet the need of this branch of photography.

Blue Printing

The essentials of this field are actinic light and economy in maintenance and current consumption. The Cooper Hewitt Lamps, because of their simplicity of construction and long life, with little attention, make them ideal for blue printing.

For the continuous blue print machines special 7 and 15 ampere Cooper Hewitt Lamps are supplied. Further information on request.

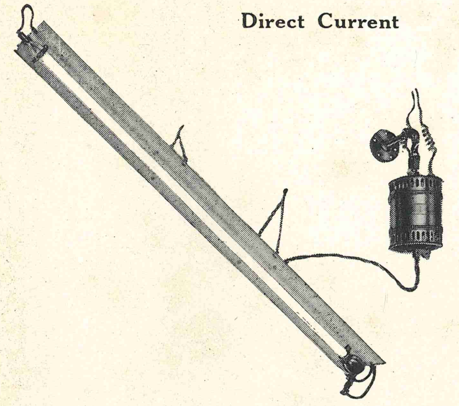
NOTE—The Regular Outfits are not interchangeable on different electric supply circuits—i. e., **Direct Current** Outfits can not be used on **Alternating Current,** and vice versa. **Outfits** can be used only on the **Voltage** range and **frequency** specified on the name plate.

Universal Outfits—Special Alternating Current Outfits may be ordered with type DE Auxiliaries that can be adjusted to Direct Current Supply.

THE UNITS OF THE PHOTOGRAPHIC OUTFITS

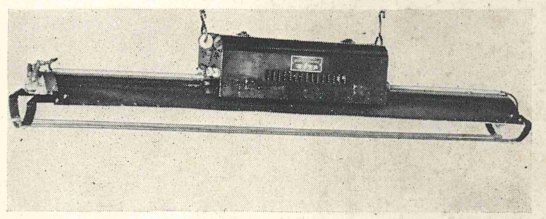
The Cooper Hewitt is an electric lamp consisting of a long glass tube or light-giving element, usually mounted in a reflector-holder, and an auxiliary element for starting and maintaining the light. With these two elements, the different combinations for long, short and bent tubes in the various outfits are constructed for the different needs that the field of photography requires. Electric Lighting Currents are of two kinds: direct current where the flow is always in one direction and alternating current, where the flow changes direction many times a second. Direct Current Cooper Hewitt Lamps cannot be used on Alternating Current, nor can Alternating Current Cooper Hewitt Lamps be used on Direct Current. This is the reason why each style of Lamp Outfit shown and described in this Bulletin is listed separately under Direct Current and Alternating Current Outfits. The Electric Light Company or Central Station that supplies the electric service, will give the nature of the current, direct or alternating, and the voltage, and if alternating current, the frequency or cycles. The Direct Current Cooper Hewitt Lamp is designated as Type P and the Alternating Current Lamp as Type F.

Direct Current



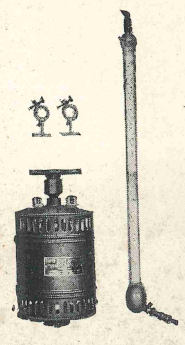
Type P Lamp showing curved 45 degree Reflector and Auxiliary "Offset"
The P Lamp may be ordered with the flat Reflector as shown with F Lamp

Alternating Current



Type F Lamp Showing Curved Reflector
The F Lamp may be ordered with Flat Reflector if desired

Specifications	Direct Current Type P	Alternating Current Type F
Tube: length of straight glass tubing	50 inches	50 inches
Tube: total overall, including terminals	58 inches	56 inches
Tube: between clamps	48½ inches	48½ inches
Reflector: Special rotated 45 degrees	8¾" x 57½"	8¾" x 52⅝"
Reflector: Standard, flat	8⅞" x 57½"	8⅞" x 52⅝"
Total Average watts	385	430
Cost per hour for current at 8c per K. W. H. rate	3 cents	3½ cents
Cost per hour for current at 10c per K. W. H. rate	4 cents	4 1/3 cents
Weights: Tube and Reflector-Holder	10 lbs.	10 lbs.
Auxiliary	25 lbs.	50 lbs.
Complete Outfit packed for shipment	110 lbs.	125 lbs.



Tube, Clamps and Auxiliary

Price:

Type "P" Outfit for operation on D. C. Supply	$45.00
Type "F" Outfit for operation on A. C. Supply	50.00

6-ft. lead offsetting auxiliary from reflector—supplied on request.

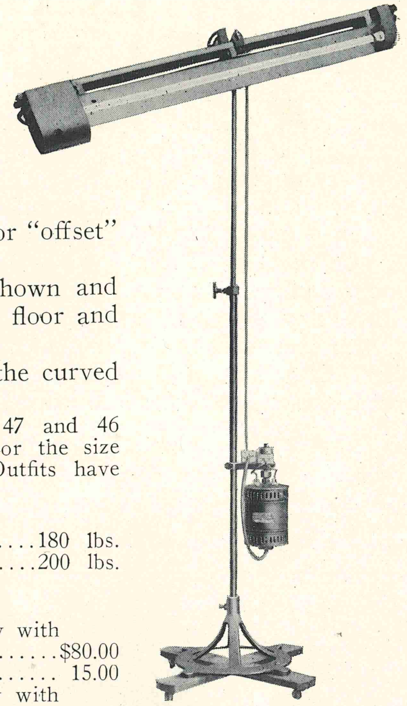
Note.—For Printing Machines or Printing Cabinets the Photographer may purchase simply the Cooper Hewitt Lamp Tube, clamps for mounting it, and the Auxiliary. These parts can be wired up by an electrician.

The Tubes are of the Automatic Lighting Type and do not have to be tilted for starting. The Tubes may be burned in any position by keeping the bulb end tip down. They are made in the regular short 20-inch and long 50-inch light giving lengths.

The clamps are asbestos lined and each Auxiliary is made particularly for the size and type of the Tube ordered and the nature and voltage of the electric supply. Many sizes and shapes of Reflectors can be furnished.

Prices on Short Tube Outfits on request.

PORTRAIT OUTFITS, NOS. 49 AND 50


Portrait Outfit No. 49
Equipped with 45 degree Reflector, showing tube horizontal
Right hand Outfit

With a little practice, all styles of lightings can be done with one 50-inch Cooper Hewitt Lamp. This may be either the Type P or Type F Lamp hung from the ceiling, as shown on page 5, or supported on the stand as the No. 49 Outfit shown here. A pair of Lamps or Outfits makes the equipment more flexible, reduces the time of exposure and aids in the taking of large groups.

The Lamp Tube and its reflector-holder may be hung away or "offset" from its auxiliary.

The No. 49 and No. 50 Outfits have high brackets, as shown and the Lamp Tubes can be used from five to nine feet from the floor and the Tubes inclined at any angle from vertical to horizontal.

The No. 49 and No. 50 Outfits are regularly made with the curved reflector rotated at 45 degrees about the tube.

Specifications: The data and dimensions given for the No. 47 and 46 Outfits (page 8) cover the No. 49 and No. 50 Outfits, excepting for the size of the bases and height of the brackets. The No. 49 and 50 Outfits have brackets 9 feet high.

Weights

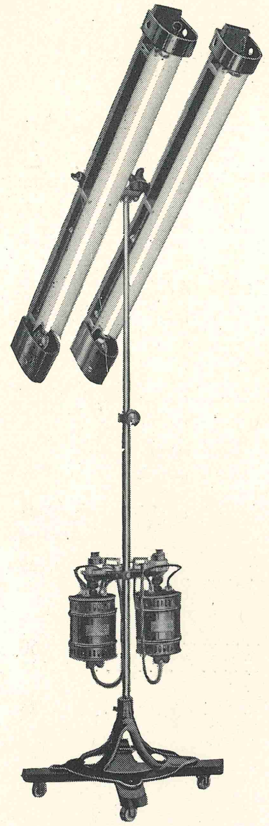
No. 49 net 82 lbs.	Packed for domestic shipment	180 lbs.
No. 50 net 102 lbs.	Packed for domestic shipment	200 lbs.

Price:

Outfit No. 49, one Type P Tube, Holder, Reflector, and Auxiliary with iron stand, 100 to 125 volts D. C.	$80.00
Renewal: Type P Tube Spec. No. 055, each	15.00
Outfit No. 50, one Type F Tube, Holder, Reflector, and Auxiliary with iron stand for either 100 to 120 volts, 60 cycles A. C. or for 200 to 240 volts 60 cycles	95.00
Renewal: Type F Tube, Spec. No. 114, each	15.00

Photo by Ira D. Schwarz, N. Y.
Cooper Hewitt Lighted Photograph

OUTFITS NOS. 57 AND 67


Outfit No. 57

FOR PORTRAITURE

These Two-Tube Outfits are used where the photographer wants more light than he obtains from a single Tube. The Two-Tube Outfit covers more area and permits shorter exposures.

DIRECT CURRENT—Outfit No. 57

Specifications

Tubes: length of the straight glass tubing, each	50 inches
Tubes: total overall, including terminals, each	58 inches
Tubes: between clamps, each	48½ inches
Reflectors, each	width, 5 inches; length, 49¾ inches

Height from floor to middle of Tubes mounted on stand, variable from 5 feet 5 inches to 9 feet 6 inches.

Weights: Outfit No. 57 Gross, packed for domestic, freight or express shipment, 225 pounds. Net weight, 125 pounds.

Total Average Current consumed by one No. 57 Outfit	770 watts

Total Average cost per hour for current figured at 110 volts, 3.5 amperes:

At 8c per Kilowatt Hour	6 cents
At 10c per Kilowatt Hour	7¾ cents

Note.—Outfit No. 57 is adjustable and may be used with the Tubes in either vertical or horizontal position, or at any intermediate angle.

Price:

Outfit No. 57; Two Type "P" Tubes, Holders, Reflectors and Auxiliaries with Iron Stand, 100, 125 volts D. C.	$155.00
Renewals; Type "P" Tubes, spec. No. 055, each Tube	15.00

ALTERNATING CURRENT—Outfit No. 67

60 Cycles

Specifications

Tubes: length of the straight glass tubing, each	50 inches
Tubes: total overall, including terminals, each	56 inches
Tubes: between clamps, each	48½ inches
Reflector, each	width, 5 inches; length, 49¾ inches

Height from floor to middle of Tubes, mounted on stand, variable from 5 feet 5 inches to 9 feet 6 inches

Weights: Outfit No. 67, Gross, packed for domestic, freight or express shipment, 255 pounds. Net weight 163 pounds.

Total average current consumed by one No. 67 Outfit	800 watts

Total average cost per hour for current:

At 8c per Kilowatt Hour	6½ cents
At 10c per Kilowatt Hour	8 cents

Note.—Outfit No. 67 is adjustable and may be used with Tube in either vertical or horizontal position, or at any intermediate angle.

Price:

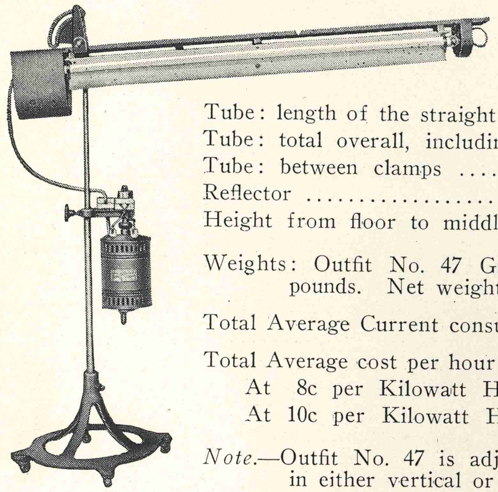
Outfit No. 67: Two Type "F" Tubes, Holders, Reflectors and Auxiliaries with Iron Stand; for either 100 to 120 volts, 60 cycles, A. C.; or for 200 to 240 volts 60 cycles—not both	$185.00
Renewals; Type "F" Tubes, spec. No. 114, each Tube	15.00

OUTFITS NOS. 47 AND 46

FOR COMMERCIAL WORK

Photographic Copying Machines can be operated only at full capacity and uniformity of output by using Cooper Hewitt Lamps.

The Tubes of Outfits No. 47 and 46 can be used both horizontally and vertically, as the size and position of the copy requires. The Lamps in these Outfits are lighted automatically with the switch. These outfits are usually used in pairs—one with reflector to right hand of the tube and one with reflector to left hand—and placed one each side of copy.


Outfit No. 47
Showing Tube
Horizontal
Right Hand
Outfit

DIRECT CURRENT—Outfit No. 47

Specifications

Tube: length of the straight glass tubing	50 inches
Tube: total overall, including terminals	58 inches
Tube: between clamps	48½ inches
Reflector	width, 5 inches; length, 49¾ inches
Height from floor to middle of Tube mounted on stand, variable from 33 to 60 inches	

Weights: Outfit No. 47 Gross, packed for domestic, freight or express shipment, 160 pounds. Net weight, 70 pounds

Total Average Current consumed by one No. 47 Outfit ....385 watts

Total Average cost per hour for current figured at 110 volts, 3.5 amperes:

At 8c per Kilowatt Hour	3 cents
At 10c per Kilowatt Hour	4 cents

Note.—Outfit No. 47 is adjustable and may be used with the Tube in either vertical or horizontal position.

Price:

Outfit No. 47: One Type P Tube, Holder, Reflector and Auxiliary with Iron Stand, 100 to 125 volts, D. C.	$75.00
Two Outfits, No. 47, same but with special Auxiliaries, to operate two in series on 200 to 250 volts, D. C., at $75.00 each	$150.00
Renewal: Type P Tube, Spec. No. 055, each Tube	15.00

ALTERNATING CURRENT—Outfit No. 46

60 Cycles

Specifications

Tube: length of the straight glass tubing	50 inches
Tube: total overall including terminals	56 inches
Tube: between clamps	48½ inches
Reflector	width, 5 inches; length, 49¾ inches
Height from floor to middle of Tube, mounted on stand, variable from 33 to 60 inches	

Weights: Outfit No. 46 Gross, packed for domestic, freight or express shipment, 170 pounds. Net weight, 85 pounds.

Total average current consumed by one No. 46 Outfit ....400 watts

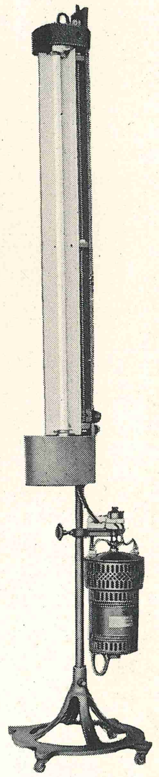
Total average cost per hour for current:

At 8c per Kilowatt Hour	3 1/5 cents
At 10c per Kilowatt Hour	4 cents

Note.—Outfit No. 46 is adjustable and may be used with Tube in either vertical or horizontal position.

Price:

Outfit No. 46: One Type F Tube, Holder, Reflector and Auxiliary with Iron Stand for either 100 to 120 volts, 60 Cycles, A. C. or for 200 to 240 volts, 60 cycles—not both	$90.00
Renewal: Type F Tube, Spec. No. 114, each Tube	15.00

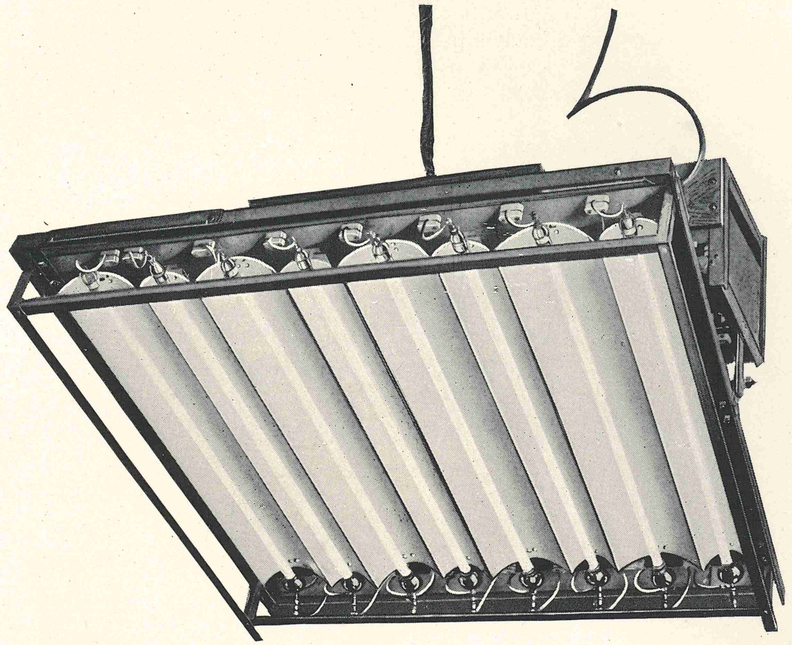

Outfit No. 46
Showing
Tube Vertical
Left Hand
Outfit

SKYLIGHTS

The Skylight Outfit may be equipped with from four to eight 50-inch Tubes mounted in an angle-iron frame with a white reflector for each Tube. The number of Tubes required in the Outfit depends upon the intensity of light demanded. The Tubes are of the automatic lighting type and do not have to be tilted for starting; they may be wired separately and each Tube controlled by an individual switch. The Auxiliaries are mounted on a main line board with cutouts, fuse plugs and six foot leads for connecting Auxiliaries and Tubes.

The Skylight Frame may be hung so that any elevation and any angle of light can be obtained from horizontal to vertical.

The Standard Motion Picture Studio unit for overhead lighting is the Eight Tube.



SKYLIGHT OUTFIT (Direct Current)

For Portraiture (see Pages 4 and 5) and for Motion Picture Studios (Page 7)

Specifications

Standard Iron Skylight Frame: width 5 feet 4 inches, length 5 feet 4 inches.

Standard White Glazed Reflectors: width 5 and 8 inches, length 49¾ inches each.

For Data and Specifications of Type P and Type F Lamps, see Page 5.

Weights: Standard Skylight with eight P Lamps 400 lbs. complete. Shipping weight packed, 650 lbs.

Prices:

100 to 125 Volts Direct Current		60 Cycles Alternating Current	
8 Type P Lamps	$460.00	8 Type F Lamps	$550.00
9 Type P Lamps	550.00	9 Type F Lamps	650.00
Renewals: Type P Tubes, Spec. No. 055, each Tube	15.00	Renewals: Type F Tubes, Spec. No. 114, each Tube	15.00

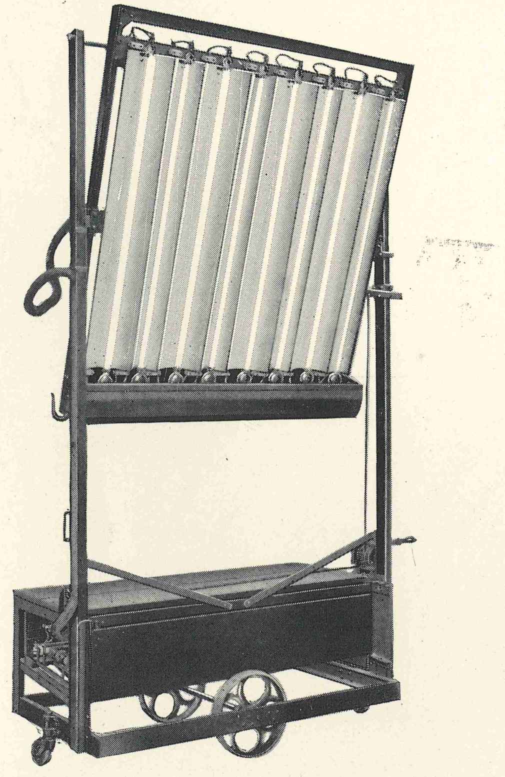
An extra charge is made for boxing of Skylight Outfits for shipment.

FLOOR STANDS

The Floor Stand consists of a Skylight Frame mounted on a Stand. The Floor Stand is complete and self-contained, with the auxiliaries mounted in the base. The Skylight Frame is supported between the up-rights and may be used at different elevations and inclinations. The raising and lowering device is an attachment which enables the operator to raise or lower the frame readily and easily. The Stand is mounted on two 14-inch truck wheels in the centre and a swivel caster at each end.

For Portrait work the number of Tubes in the Floor Stand, like the Skylight Outfit, depends entirely upon the photographer's requirements for light.

For Motion Picture Work, the eight tube outfit is the accepted unit.



A FLOOR STAND (Direct Current)

Specifications

The Floor Stands are made in two heights—9 feet 9 inches and 11 feet 9 inches.

Maximum height to top of frame	9 ft. 9 in.	11 ft. 9 in.
Minimum height to top of frame	6 ft. 6 ft.	6 ft. 6 in.
Height of uprights from floor	7 ft. 10 in.	9 ft. 10 in.

Floor area covered: 2 feet 7 inches by 5 feet 6 inches
Weights: D. C. Floor Stand, 620 pounds net; packed for shipment, 1,000 pounds.
A. C. Floor Stand, 880 pounds net; packed for shipment, 1,400 pounds.

Prices:

100 to 125 Volts Direct Current	
8 Type P Lamps	$610.00
Renewals: Type P Tubes, Spec. No. 055, each Tube	15.00

60 Cycles, Alternating Current	
8 Type F Lamps	$700.00
Renewals: Type F Tubes, Spec. No. 114, each Tube	15.00

Note.—The above prices include the raising and lowering device.

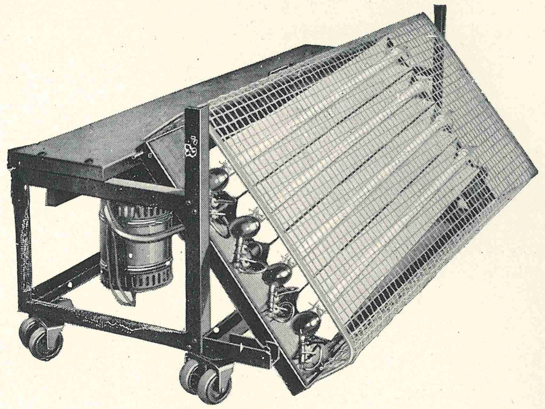
An extra charge is made for boxing floor stands for shipment.

FOOT LIGHTS

The Foot-Light Stand for Direct Current is equipped with four Type P Lamp Tubes mounted horizontally each in a white enamelled reflector and covered with a heavy galvanized wire guard. The necessary auxiliaries are mounted at the back of the Stand.

For Alternating Current the Stand is similar to the one shown, but furnished with four Type F Lamp Tubes, reflectors, wire guard and the Alternating Current Auxiliaries.

As the name implies, these Stands give a low light, that is thrown in and up. They modify shadow cast by hats, etc.



A FOOT LIGHT (Direct Current)

For Motion Picture Studios

Specifications

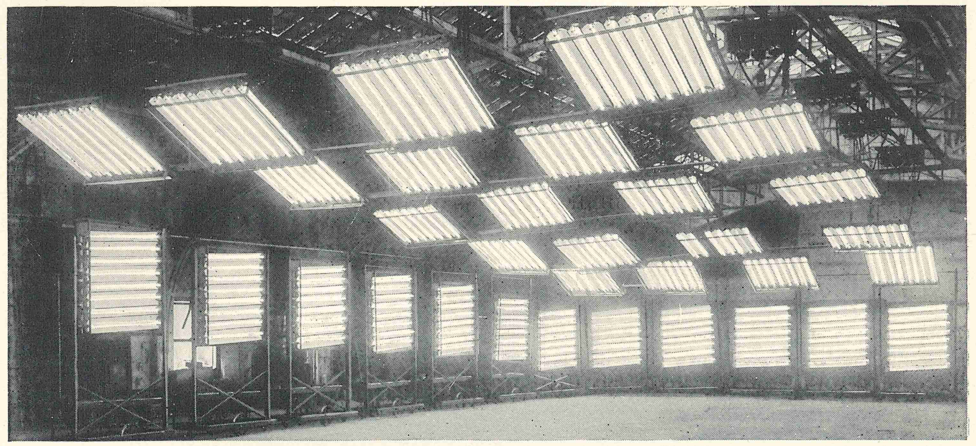
Foot-Light Lamp Frame: width 2 ft., 3½ in., length, 5 ft. 1⅞ in.
White Glazed Reflectors: width 5 in., length 49¾ in., each.
Four Type P Lamps take 1,540 Watts; four Type F Lamps, 1,540.
Total height: 2 ft. 1⅜ in., width, 2 ft. 8½ in., depth, 5 ft., 5⅞ in.
Weight: Direct Current 250 lbs. net; gross packed, 500 lbs.
Alternating Current 380 lbs., net; gross packed, 600 lbs.

Prices:

100 to 125 Volts Direct Current	
4 Type P Lamps	$350.00
Renewals: Type P Tubes, Spec. No. 055 each tube	15.00

60 Cycles, Alternating Current	
4 Type F Lamps	$400.00
Renewals: Type F Tubes, Spec. No. 114 each tube	15.00

Note.—An extra charge is made for boxing footlights for shipment.



One Stage of a large Motion Picture Studio

The production and exhibition of moving pictures now ranks fifth among the industries of this country. The great studios where the productions are staged for photographing depend upon Cooper Hewitt light for their illumination, finding it better than daylight.

OUTFITS NOS. 52 AND 62

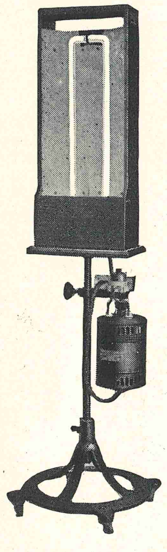
FOR COPY BOARDS AND TITLE AND CARTOON WORK

These Outfits with the inverted U-shaped Tube are designed for lighting copy boards, title and cartoon work; small objects to be photographed; for printing and for enlarging.

For copy work the Outfits are used in pairs, one each side of the camera.

For cartoon work, printing and enlarging, the Outfit may be used without the stand if placed on a shelf or table, or suspended above the board. With a stand, however, the Outfit can be moved about readily in the work shop.

The Tubes in these Outfits light automatically.



Outfit No. 52
With Stand
(See Note)

DIRECT CURRENT—Outfit No. 52

Specifications

Tube: length of the vertical straight glass tubing	23 inches
Tube: total overall including terminals	28¼ inches
Tube: between clamp and hook	22¼ inches
Tube: distance apart—between prong centers	3½ inches
Reflector	total width, 10 inches; height, 23¼ inches

Outside dimensions of wooden holder 10¼ inches wide, 31½ inches high, 7⅝ inches deep. Base 7⅝ inches x 10¼ inches.

Height from floor to middle of Tubes mounted on stand, variable from 48 to 78 inches

Weight: Outfit No. 52 Gross packed for domestic, freight or express shipment with Iron Stand 165 pounds. Net weight, 80 pounds. Without Iron Stand, gross, 120 pounds; net 45 pounds.

Total average current consumed by one No. 52 Outfit ....385 watts

Total average cost per hour for current figured at 110 volts, 3½ amperes:

At 8c per Kilowatt Hour	3 cents
At 10c per Kilowatt Hour	4 cents

Prices:

Outfit No. 52 One Type P-U shaped Tube, Holder, Reflector, Auxiliary with Iron Stand, 100 to 125 volts, D. C.	$ 85.00
Two Outfits, No. 52, with auxiliaries for operating both in series, 200 to 250 volts, D. C., with two iron stands, $85,00 each	170.00
Outfit No. 52, 100 to 125 volts, D. C., without stand	75.00
Renewal: Type P-U shaped Tube Spec. No. 611, each	20.00

ALTERNATING CURRENT—Outfit No. 62—60 Cycles

Outfit No. 62 is very similar in appearance to No. 52, see cut above, except that No. 62 has a different Tube, Reflector-Holder and Auxiliary for Alternating Current.

Specifications

Tube: length of the vertical straight glass tubing	23 inches
Tube: total overall including terminals	28¼ inches
Tube: between clamp and hook	22¼ inches
Tube: distance apart—between prong centers	3½ inches
Reflector	total width, 10 inches; height, 23¼ inches

Outside dimensions of wooden holder, 10¼ inches wide, 31½ inches high, 7⅝ inches deep. Base 7⅝ inches x 10¼ inches.

Height from floor to middle of Tubes, mounted on Stand, variable from 48 to 78 inches.

Weight: Outfit No. 62 Gross, packed for domestic, freight or express shipment, 180 pounds. Net weight, 95 pounds.

Total average current consumed by one No. 62 Outfit ....400 watts

Total average cost per hour for current:

At 8c per Kilowatt Hour	3 1/5 cents
At 10c per Kilowatt Hour	4 cents

Prices:

Outfit No. 62 One Type F-U shaped Tube, Holder, Reflector, Auxiliary, mounted on Iron Stand, for either 100 to 120 volts, 60 cycles, A. C., or 200 to 240 volts, 60 cycles—not both	$100.00
Outfit No. 62 without stand	90.00
Renewal: Type F-U shaped Tube, Spec. No. 241, each	21.00

OUTFITS NOS. 53 AND 63

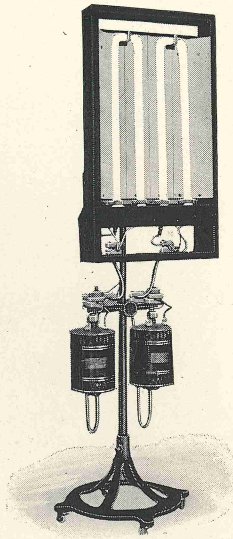
FOR PRINTING AND ENLARGING

These Outfits with two inverted U-shaped Tubes are designed for lighting large copy boards and title work where speed is essential; for printing and enlarging from 8 x 10 negatives and larger.

For Copy and Title work the Outfits are used in pairs, one each side of the camera.

For printing and enlarging the Outfits may be used without the stands if placed on a shelf or table. With a stand, however, the Outfit can be moved around readily in the work shop.

The Tubes in these Outfits light automatically.



Outfit No. 53
With Stand
(See Note)

DIRECT CURRENT—Outfit No. 53

Specifications

Tube: length of the vertical straight glass tubing	23 inches
Tube: total overall including terminals	28¼ inches
Tube: between clamp and hook	22¼ inches
Tube: distance apart—between prong centers	3½ inches
Reflector	total widths, 17 inches; height, 23¼ inches

Outside dimensions of wooden holder 18¾ inches wide; 35⅛ inches high; 7 inches deep. Base 7⅞ inches x 22½ inches.

Height from floor to middle of Tubes, mounted on stand variable from ....48 to 78 inches

Weight: Outfit No. 53 Gross, packed for domestic, freight or express shipment with Iron Stand, 240 pounds. Net weight, 120 pounds.

Total average current consumed by one No. 53 Outfit .... 770 watts

Total average cost per hour for current figured at 110 volts, 3½ amperes:

At 8c per Kilowatt Hour	6 cents
At 10c per Kilowatt Hour	8 cents

Prices:

Outfit No. 53. Two P-U shaped Tubes, Holders, Reflectors, and Auxiliaries with Iron Stand 100 to 125 volts, D. C., $155.00

Without stand	$145.00
Renewals: Type P-U shaped Tubes Spec. No. 611, each tube	20.00

ALTERNATING CURRENT—Outfit No. 63—60 Cycles

Outfit No. 63 is very similar in appearance to No. 53 except that No. 63 has different Tubes, Reflector-Holder and Auxiliaries for Alternating Current.

Specifications

Tube: length of the vertical straight glass tubing	23 inches
Tube: total overall including terminals	28¼ inches
Tube: between clamp and hook	22¼ inches
Tube: distance apart—between prong centers	3½ inches
Reflector	total width, 10 inches; height, 23½ inches

Outside dimensions of wooden holder, 18¾ inches wide, 35⅛ inches high; 7 inches deep. Base, 7⅞ inches x 22½ inches.

Height from floor to middle of Tubes mounted on stand, variable from ....48 to 78 inches

Weight: Outfit No. 63 Gross packed for domestic freight, or express shipment, 320 pounds. Net weight, 160 pounds.

Total average current consumed by one No. 63 Outfit..........800 watts

Total average cost per hour for current:

At 8c per Kilowatt Hour	6 2/5 cents
At 10c per Kilowatt Hour	8 cents

Prices:

Outfit No. 63. Two F-U shaped Tubes, Holder, Reflectors and Auxiliaries mounted on Iron Stand for either 100 to 120 volts, 60 cycles, A. C., or 200 to 240 volts, 60 cycles—not both, $185.000

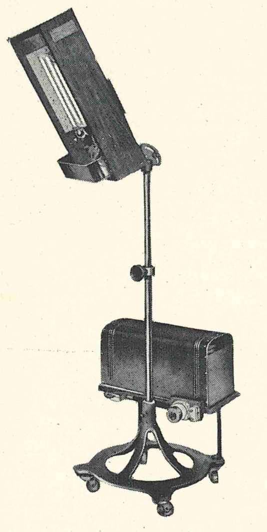
Without Stand	$175.00
Renewals: Type F-U shaped Tubes. Spec. No. 241, each tube	21.00

OUTFITS NOS. 54 AND 64

FOR ENLARGING

These Outfits with the M-shaped tubes are made especially for photographic enlarging. This shape tube concentrates the light behind the negative and with a sheet of flashed opal or with two sheets of ground glass gives perfect diffusion for negatives up to and including 8 x 10. This Outfit does not require condensing lenses.

Special M-shaped tubes with clamps and auxiliary can be ordered for printing boxes. M-shaped tubes can be had for burning in horizontal position if ordered specially. The Lamps are lighted automatically.



Outfit No. 64
With Stand

DIRECT CURRENT—Outfit No. 54

Specifications

Tube: length of the vertical straight glass tubing	10¾ inches
Tube: total overall vertical length, including terminals	16 inches
Tube: total light giving length	50 inches
Tube: between clamp and hook	9 13/16 inches
Tubes: distance apart—between prong centers	2½ inches
Reflector	total width, 14 inches; height, 12⅝ inches

Outside dimensions of wooden holder, 15¾ inches wide, 22 9/16 inches high, 5 inches deep. Base, 5 inches x 15¾ inches.

Height from floor to middle of Tube, mounted on stand variable from	41 to 68 inches

Weight: Outfit No. 54. Gross, packed for domestic, freight or express shipment with Iron Stand, 170 pounds. Net weight, 80 pounds. Without Iron Stand, packed, 130 pounds; net 45 pounds.

Total average current consumed by one No. 54 Outfit	385 watts

Total average cost per hour for current:

At 8c per Kilowatt Hour	3 cents
At 10c per Kilowatt Hour	4 cents

Price:

Outfit No. 54. One Type P-M shaped Tube Holder, Reflector and Auxiliary with Iron Stand and 15 feet of stage cable and plug, 100 to 115 volts D. C.	$90.00
Without stand	80.00
Renewal: Type P-M shaped Tube, Spec. No. 094, each	22.50

ALTERNATING CURRENT—Outfit No. 64—60 Cycles

Specifications

Tube: length of the vertical straight glass tubing	10¾ inches
Tube: total overall vertical length, including terminals	16 inches
Tube: total light giving length	50 inches
Tube: between clamp and hook	9 13/16 inches
Tubes: distance apart—between prong centers	2½ inches
Reflector	total width, 14 inches; height, 12⅝ inches

Outside dimensions of wooden holder 15¾ inches wide, 22 9/16 inches high, 5 inches deep. Base 5 inches x 15¾ inches.

Height from floor to middle of Tube mounted on Stand, variable from	41 to 68 inches

Weights: Outfit No. 64. Gross packed for domestic, freight or express shipment with Iron Stand 235 pounds. Net weight, 105 pounds. Net without stand, 70 pounds.

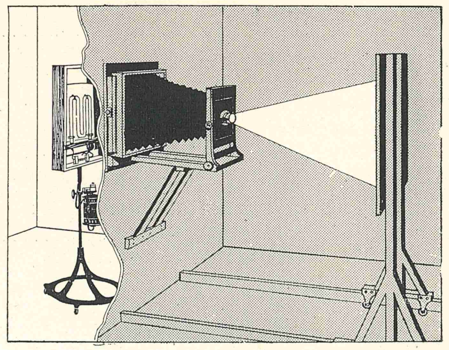
Total average current consumed by one No. 64 Outfit, 400 watts

Total average cost per hour for current:

At 8c per Kilowatt Hour	3 1/5 cents
At 10c per Kilowatt Hour	4 cents

Price:

Outfit No. 64. One Type F-M shaped Tube, Holder, Reflector, and Auxiliary with Iron Stand, and 15 feet of stage cable and plug for 100 to 125 volts A. C., 60 Cycles, each	$105.00
Without stand	95.00
Renewal: Type F-M shaped Tube, Spec. No. 228, Each	23.50



An arrangement for Enlarging. A No. 54 Outfit placed outside the dark room behind a window of opal glass.

INDEX OF LAMP OUTFITS WITH PRICES

For Description See Page		
5	Type P Outfit	$45.00
	Type F Outfit	50.00
6	Direct Current: Outfit No. 49, complete	$ 80.00
	Alternating Current: Outfit No. 50, complete, 60 cycles	95.00
	Renewals: Same as for Outfits Nos. 57 and 67 listed below.	
7	Outfit No. 57: Two Type P Tubes, Holders, Reflectors and Auxiliaries with Iron Stand, 100 to 125 volts, D. C.	155.00
	Renewals: Type P Tubes, Specification No. 055, each Tube	15.00
	Outfit No. 67: Two Type F Tubes, Holders, Reflectors and Auxiliaries with Iron Stand for either 100 to 120 volts, 60 cycles, A. C. or for 200 to 240 volts, 60 cycles—not both	185.00
	Renewals: Type F Tubes, Specification No. 114, each Tube	15.00
8	Outfit No. 47: One Type P Tube, Holders, Reflector and Auxiliary with Iron Stand, 100 to 125 volts D. C.	75.00
	Two Outfits, No. 47: Same, but with Special Auxiliaries, to operate two in series on 200 to 250 volts, D C., at $75.00 each	150.00
	Renewal: Type P Tube, Spec. No. 055, each Tube	15.00
	Outfit No. 46: One Type F Tube, Holder, Reflector and Auxiliary with Iron Stand for either 100 to 120 volts, 60 cycles, A. C. or for 200 to 240 volts, 60 cycles—not both	90.00
	Renewal: Type F Tube, Spec. No. 114, each Tube	15.00
9	**100 to 125 Volts Direct Current**	
	Skylights:	
	8 Type P Lamps	$460.00
	Renewals: Type P Tubes, Spec. No. 055, each tube	15.00
	60 Cycles Alternating Current	
	8 Type F Lamps	$550.00
	Renewals: Type F Tubes, Spec. No. 114, each tube	15.00
	An extra charge is made for boxing Skylight Outfits for shipment.	
10	**100 to 125 Volts Direct Current**	
	Floor Stands:	
	8 Type P Lamps	$610.00
	Renewals: Type P Tubes, Spec. No. 055, each tube	15.00
	60 Cycles Alternating Current	
	8 Type F Lamps	$700.00
	Renewals: Type F Tubes, Spec. No. 114, each tube	15.00
	Note—The above prices include the Raising and Lowering Device.	
	An extra charge is made for boxing Floor Stands for shipment.	
11	**100 to 125 Volts Direct Current**	
	Foot Lights:	
	4 Type P Lamps	$350.00
	Renewals: Type P Tubes, Spec. No. 055, each tube	15.00
	60 Cycles Alternating Current	
	4 Type F Lamps	$400.00
	Renewals: Type F Tubes, Spec No. 114, each tube	15.00
	An extra charge is made for boxing Foot Light Stands for shipment.	
12	Outfit No. 52: Ont Type P-U shaped Tube, Holder, Reflector and Auxiliary with Iron Stand 100 to 125 volts, D. C.	85.00
	Two Outfits No. 52: With Auxiliaries for operating both in series on 200 to 250 volts, D. C. with two Iron Stands, at $85.00 each	170.00
	Renewal: Type P-U Tube, Spec. No. 611, each	20.00
	Outfit No. 52: For 100 to 125 volts D. C., Without Stand	75.00
	Outfit No. 62: One Type F-U shaped Tube, Holder, Reflector, and Auxiliary mounted on Iron Stand, for either 100 to 120 volts, 60 cycles, A. C., or 200 to 240 volts, 60 cycles—not both	100.00
	Outfit No. 62: Without Stand	90.00
	Renewal: Type F-U Tube, Spec. No. 241, each	21.00
13	Outfit No. 53: Two Type P-U shaped Tubes, Holder, Reflectors and Auxiliaries with Iron Stand, 100 to 125 volts, D. C., $155.00 Without Stand	155.00
	Renewals: Type P-U Tubes, Spec. No. 611, each tube	20.00
	Outfit No. 63: Two Type F-U shaped Tubes, Holder, Reflectors and Auxiliary mounted on Iron Stand, for either 100 to 120 volts, 60 cycles, A. C., or 200 to 240 volts, 60 cycles—not both, $185.00. Without stand	175.00
	Renewal: Type F-U Tubes, Spec. No. 241, each tube	21.00
14	Outfit No. 54: One Type P-M shaped Tube, Holder, Reflector and Auxiliary with Iron Stand and 15 feet stage cable and plug, 100 to 125 volts, D. C.	90.00
	Outfit No. 54: Without Stand	80.00
	Renewal: Type P-M shaped Tube, Spec. No. 094, each	22.50
	Outfit No. 64: One Type F-M shaped Tube, Holder, Reflector, and Auxiliary with Iron Stand, and 15 feet stage cable and plug, for 100 to 125 volts A. C., 60 cycles each	105.00
	Outfit No. 64: Same, without Stand	95.00
	Renewal: Type F-M shaped Tube, Spec. No. 228, each	23.50

A. C. prices given above are for Outfits to operate on 60 cycle supply.

For other frequencies order Special Alternating Current Outfits—extra charge over the 60 cycles Outfit prices as follows:

50 cycles, extra for each Lamp in Outfit	$ 1.00
40 cycles, extra for each Lamp in Outfit	2.50
25 cycles, extra for each Lamp in Outfit	5.00

Universal Outfits for Alternating and Direct Current

The Alternating Current Outfits shown on Pages 6, 7, 8, 12, 13 and 14 may be equipped with Special Type DE Auxiliaries for operation on both 60 cycles, alternating current and on 100 to 125 volts direct current.

Extra charge over 60 cycle Outfit prices, for each Lamp Auxiliary in Outfit ....$ 2.00

Note.—Outfits Numbers 52, 62, 53, 54, 64, are all forward tilting.

Renewals—Tubes Only

Direct Current		Alternating Current	
20 inch Type P Spec. No. 069	$11.00	20 inch Type F Spec. No. 121	$13.50
50 inch Type P Spec. No. 055	15.00	50 inch Type F Spec. No. 114	15.00

Before ordering read Page 16

HOW TO ORDER

I. COMPLETE LAMP OUTFITS

(1) State the nature of the electric supply on which you will use the Outfit—i. e., **Direct Current** (D. C.), or **Alternating Current** (A. C.)

(2) State the pressure of the electric supply (in **Volts**) with the maximum and minimum variations, at the point where the Outfit will be used. If Alternating Current give also the frequency (in **Cycles**).

(3) State the exact Outfit wanted, and whether it is to be wired for **two** or **three** wire systems.

(4) If other than the Regular Outfits are ordered, specify how the Outfits are to be used, and exactly **how far apart** the Tubes are to be spaced.

The Regular Outfits can be used only on the Direct or on the Alternating Current and at the voltage as specified on the name plate. The Outfits are not interchangeable for different voltages.

Special Universal Outfits may be ordered, which are adjustable within limits for both direct and alternating current.

Purchasers will appreciate how necessary positive and definite information is on these points. Accepting second-hand or hearsay information may result in the shipping of Outfits which will not operate on the actual electric supply, and cause delay in adjusting or exchanging the Outfits to meet the actual conditions.

II. RENEWALS (Tubes only)

Give in each case the **type letter** and the **specification number** of the old Tube, or for M and U shaped renewal tubes, give type letter and specification numbers from the name plate of the Reflector-Holder, or the **serial number** printed on the terminals of the old Tube.

Note.—The type letter is not sufficient, as in most cases several sizes and styles of Tube bear the same type letter.

III. REPAIR PARTS TO HOLDERS OR AUXILIARIES

Give the Type Letters and **Specification Numbers** from the name plate of the **Holder** and **Auxiliary**, with a brief description or pencil sketch and dimensions of the new part or parts wanted.

PRICES

All prices are net F. O. B. our factory, Hoboken, New Jersey; and are subject to change without notice. Terms, 30 days to those having established credit.

Full directions with wiring diagram for installing, connecting and adjusting are sent with each Outfit. Your own local electrician should have no trouble with the installation.

We request correspondence before any goods are returned. Unless otherwise agreed, shippers must be responsible for delivery in good condition and must also repay transportation charges.

Shipments will **not be sent C. O. D.** unless a remittance sufficient to pay express charges both ways accompanies the order.

BETTER THAN DAYLIGHT
COOPER HEWITT LIGHT
INCREASES PRODUCTION

Cooper Hewitt Electric Company
General Offices 95 River Street Hoboken, N. J.

Boston—161 Summer Street
Charlotte, N. C.
Chicago—Old Colony Building
Cincinnati—First National Bank Bldg
Cleveland—Engineers Building
Detroit—Ford Building
Los Angeles—Keese Engineering Corp.
Philadelphia—Drexel Building
Pittsburgh—Westinghouse Building
St. Louis—Title Guaranty Bldg.
Syracuse—University Building

Cooper Hewitt Electric Co.

General Offices:
95 RIVER STREET

HOBOKEN, N. J.

Works:
8th AND GRAND STS.

Bulletin No. 98-B

Photographic Lamps

CATALOGUE OF
COOPER HEWITT ELECTRIC LAMPS
FOR PHOTOGRAPHIC PROCESSES

Portrait by Markham, Portland, Ore.